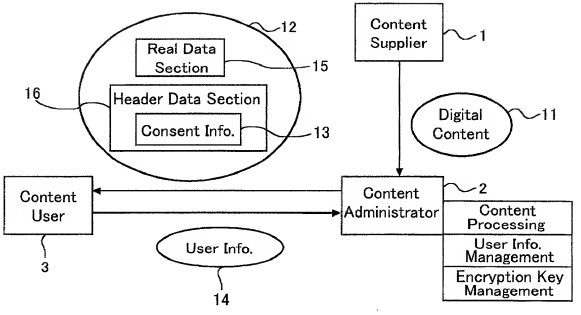
Content Supplier
1
12
Real Data Section
15
16
Header Data Section
Consent Info.
13
Digital Content
11
Content User
3
Content Administrator
2
Content Processing
User Info. Management
Encryption Key Management
User Info.
14

Fig. 1

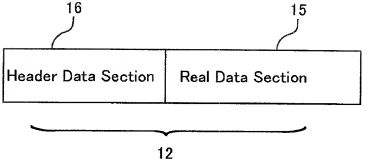
16
15
Header Data Section
Real Data Section
12

Fig. 2

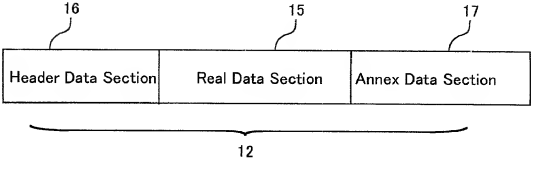
16
15
17
Header Data Section
Real Data Section
Annex Data Section
12

Fig. 3

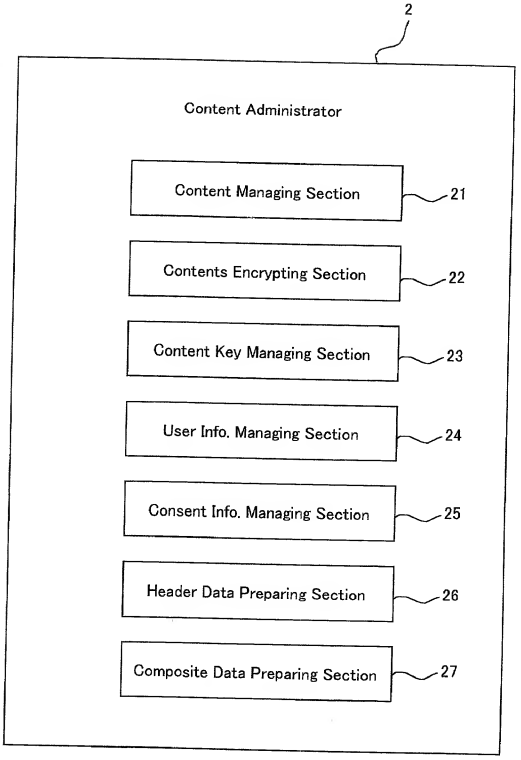
2
Content Administrator
Content Managing Section
21
Contents Encrypting Section
22
Content Key Managing Section
23
User Info. Managing Section
24
Consent Info. Managing Section
25
Header Data Preparing Section
26
Composite Data Preparing Section
27

Fig. 4

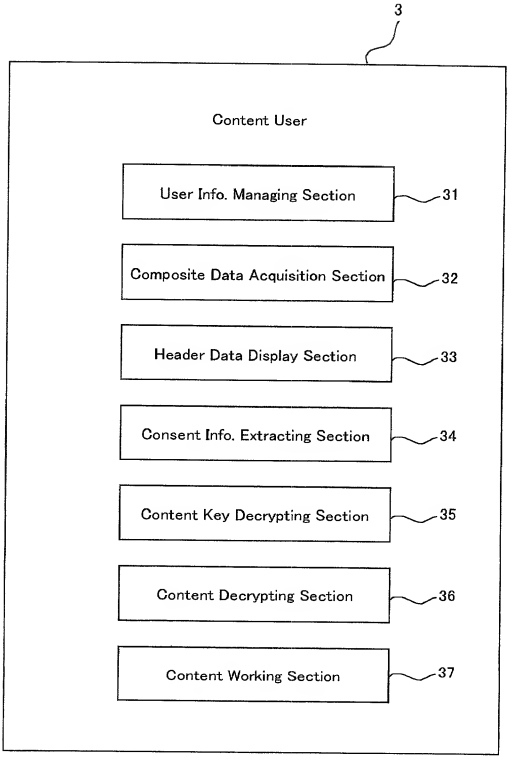
3
Content User
User Info. Managing Section
31
Composite Data Acquisition Section
32
Header Data Display Section
33
Consent Info. Extracting Section
34
Content Key Decrypting Section
35
Content Decrypting Section
36
Content Working Section
37

Fig. 5

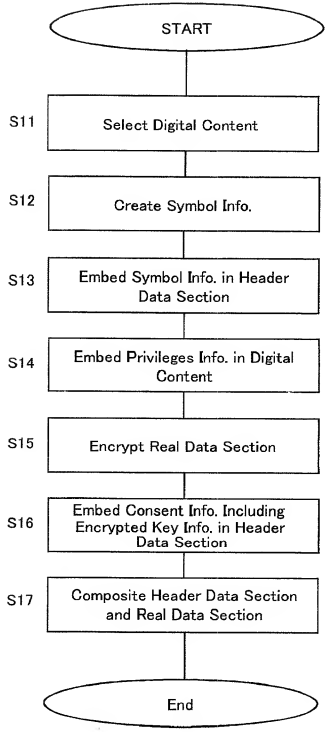
START
S11
Select Digital Content
S12
Create Symbol Info.
S13
Embed Symbol Info. in Header Data Section
S14
Embed Privileges Info. in Digital Content
S15
Encrypt Real Data Section
S16
Embed Consent Info. Including Encrypted Key Info. in Header Data Section
S17
Composite Header Data Section and Real Data Section
End

Fig. 6

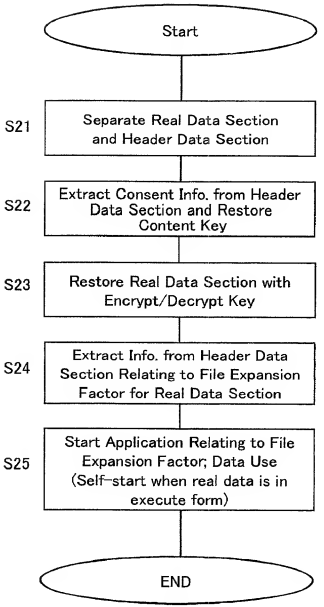
Start
S21
Separate Real Data Section and Header Data Section
S22
Extract Consent Info. from Header Data Section and Restore Content Key
S23
Restore Real Data Section with Encrypt/Decrypt Key
S24
Extract Info. from Header Data Section Relating to File Expansion Factor for Real Data Section
S25
Start Application Relating to File Expansion Factor; Data Use (Self-start when real data is in execute form)
END

Fig. 7

Data Kind	Symbol Info.	Expansion Factor
Music		mp3
Image		jpg
Publications		lit

Fig. 8

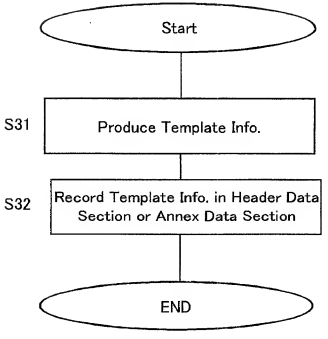
Start
S31
Produce Template Info.
S32
Record Template Info. in Header Data Section or Annex Data Section
END

Fig. 9

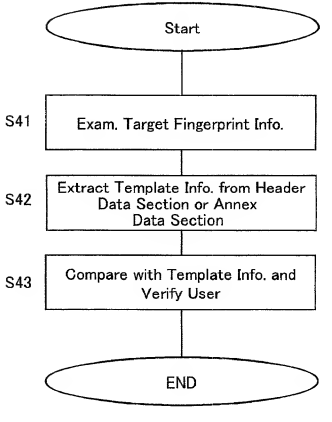
Start
S41
Exam. Target Fingerprint Info.
S42
Extract Template Info. from Header Data Section or Annex Data Section
S43
Compare with Template Info. and Verify User
END

Fig. 10

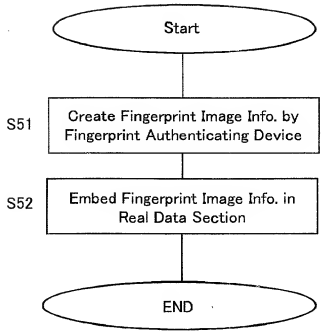
Start
S51
Create Fingerprint Image Info. by Fingerprint Authenticating Device
S52
Embed Fingerprint Image Info. in Real Data Section
END

Fig. 11

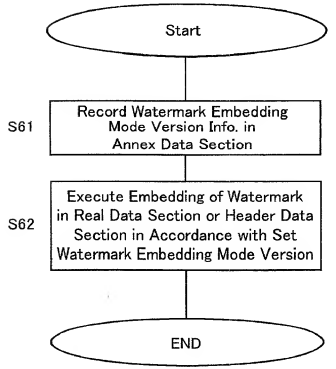
Start
S61
Record Watermark Embedding Mode Version Info. in Annex Data Section
S62
Execute Embedding of Watermark in Real Data Section or Header Data Section in Accordance with Set Watermark Embedding Mode Version
END

Fig. 12

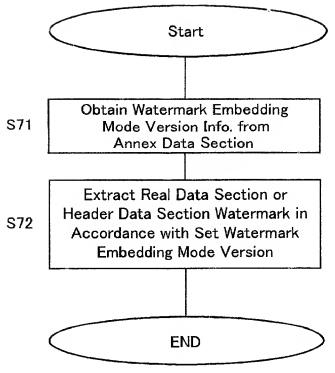

Fig. 13

Watermark Embedding Class	Header Data Section	Real Data Section
1111	Type1–Version1	Type1–Version1
2111	Type2–Version1	Type1–Version1
1100	Type1–Version1	————

Fig. 14

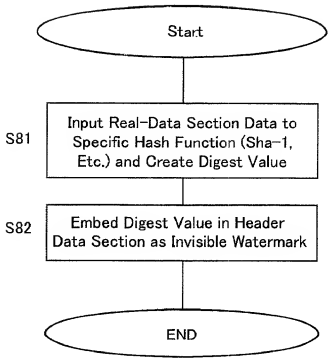
Start
S81
Input Real-Data Section Data to Specific Hash Function (Sha-1, Etc.) and Create Digest Value
S82
Embed Digest Value in Header Data Section as Invisible Watermark
END

Fig. 15

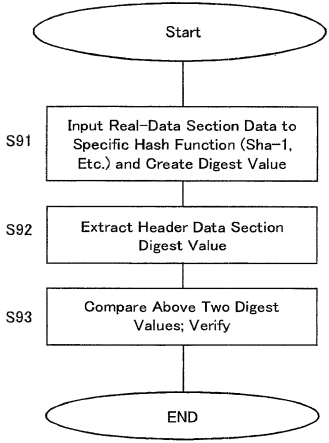
Start
S91
Input Real-Data Section Data to Specific Hash Function (Sha-1, Etc.) and Create Digest Value
S92
Extract Header Data Section Digest Value
S93
Compare Above Two Digest Values; Verify
END

Fig. 16

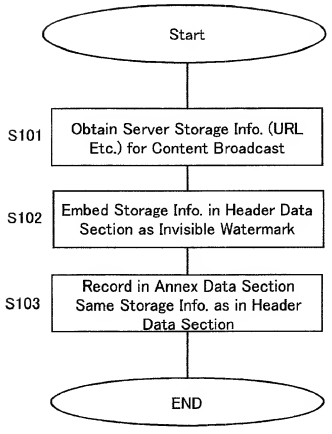
Start
S101
Obtain Server Storage Info. (URL Etc.) for Content Broadcast
S102
Embed Storage Info. in Header Data Section as Invisible Watermark
S103
Record in Annex Data Section Same Storage Info. as in Header Data Section
END

Fig. 17

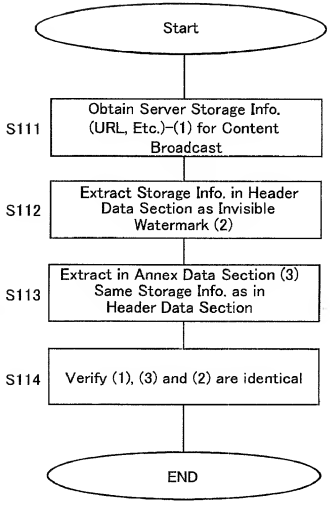
Start
S111
Obtain Server Storage Info. (URL, Etc.)-(1) for Content Broadcast
S112
Extract Storage Info. in Header Data Section as Invisible Watermark (2)
S113
Extract in Annex Data Section (3) Same Storage Info. as in Header Data Section
S114
Verify (1), (3) and (2) are identical
END

Fig. 18

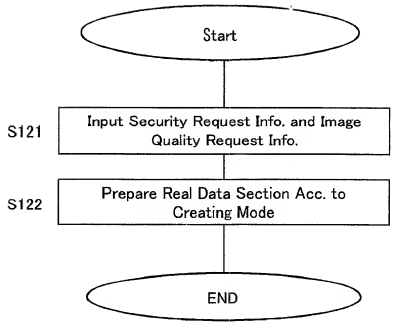

Fig. 19

Image Quality Request	Security Request	Real Data Section Creation Example
Low	Low	Invisible Watermark, Not Encrypted
Low	High	Invisible Watermark, Encrypted
High	Low	Watermark Unnecessary, Not Encrypted
High	High	Visible Watermark, Encrypted

Fig. 20